

CONTENTS

Preface	vii
<i>REACTION PROCESSING, METALLIC AND CERAMIC COMPOSITES</i>	
Reactive sintering and reactive hot isostatic compaction of aluminide matrix composites.	1
W. Misiolek and R. M. German (Troy, NY, U.S.A.)	
<i>In situ</i> formation of an alumina interface coating in reactively synthesized NbAl ₃ -Nb composites	11
L. Lu, A. B. Gokhale and R. Abbaschian (Gainesville, FL, U.S.A.)	
<i>In-situ</i> -grown reinforcements for titanium aluminides	25
J. J. Valencia, J. P. A. Löfvander, C. McCullough, C. G. Levi (Santa Barbara, CA, U.S.A.) and R. Mehrabian (Pittsburgh, PA, U.S.A.)	
Analysis of <i>in situ</i> formation of titanium carbide in aluminum alloys	37
P. Sahoo (Limerick, PA, U.S.A.) and M. J. Koczak (Philadelphia, PA, U.S.A.)	
Investment-cast processing of XD™ near-γ titanium aluminides	45
D. E. Larsen (Whitehall, MI, U.S.A.), L. Christodoulou, S. L. Kampe and P. Sadler (Baltimore, MD, U.S.A.)	
Powder processing of intermetallic alloys and intermetallic matrix composites	51
N. S. Stoloff and D. E. Alman (Troy, NY, U.S.A.)	
Reaction-formed silicon carbide	63
Y.-M. Chiang, R. P. Messner, C. D. Terwilliger (Cambridge, MA, U.S.A.) and D. R. Behrendt (Cleveland, OH, U.S.A.)	
Novel reinforced ceramics and metals: a review of Lanxide's composite technologies	75
A. W. Urquhart (Newark, DE, U.S.A.)	
Ceramic composite matrices from metal-organic precursors	83
K. S. Mazdiasni (San Diego, CA, U.S.A.)	
Microwave ignition and combustion synthesis of composites	91
D. E. Clark, I. Ahmad and R. C. Dalton (Gainesville, FL, U.S.A.)	
<i>PLASMA AND SPRAY PROCESSING OF HIGH TEMPERATURE COMPOSITES</i>	
Heat transfer mechanisms and their effects on microstructure during spray atomization and codeposition of metal matrix composites.	99
M. Gupta, F. A. Mohamed and E. J. Lavernia (Irvine, CA, U.S.A.)	
Plasma deposition of particulate-reinforced metal matrix composites	111
M. N. Gungor, R. M. Roidt and M. G. Burke (Pittsburgh, PA, U.S.A.)	
<i>In-situ</i> -reinforced titanium matrix composites.	121
M. S. Thompson and V. C. Nardone (East Hartford, CT, U.S.A.)	
Plasma spray consolidation of high temperature composites	127
R. Tiwari, H. Herman, S. Sampath and B. Gudmundsson (Stony Brook, NY, U.S.A.)	
<i>LIQUID PROCESSING OF NOVEL COMPOSITES</i>	
Processing of continuous-ceramic-fiber-reinforced intermetallic composites by pressure casting	133
S. Nourbakhsh and H. Margolin (Brooklyn, NY, U.S.A.)	
Powder processing of ceramic matrix composites	143
F. F. Lange, D. C. C. Lam, O. Sudre, B. D. Flinn, C. Folsom, B. V. Velamakanni, F. W. Zok and A. G. Evans (Santa Barbara, CA, U.S.A.)	
Processing and properties of Al ₂ O ₃ -Al composites	153
B. D. Flinn, F. W. Zok, F. F. Lange and A. G. Evans (Santa Barbara, CA, U.S.A.)	
A capacitance technique for studying pressure infiltration	159
T. R. Fletcher, J. A. Cornie and K. C. Russell (Cambridge, MA, U.S.A.)	

CONTENTS (continued)

Lorentz-force-driven infiltration by aluminum	165
R. M. Andrews and A. Mortensen (Cambridge, MA, U.S.A.)	
Solidification synthesis of pressure-infiltrated Al alloy 2014-SiC platelet composites	169
R. Asthana and P. K. Rohatgi (Milwaukee, WI, U.S.A.)	
Reinforced silver chloride as a model material for the study of dislocations in metal matrix composites . .	179
D. C. Dunand and A. Mortensen (Cambridge, MA, U.S.A.)	
Pressure infiltration casting of metal matrix composites	189
A. J. Cook and P. S. Werner (Pittsburgh, PA, U.S.A.)	
Mullite whisker felt and its application in composites.	207
D. Haught, I. Talmy, D. Divecha and S. Karmarkar (Silver Spring, MD, U.S.A.)	
Liquid-liquid dispersion for fabrication of Al-Pb metal-metal composites	215
S. Mohan, V. Agarwala and S. Ray (Uttar Pradesh, India)	
On the dispersion of SiC-Al slurries in rotating flows	221
N. El-Kaddah and K. E. Chang (Tuscaloosa, AL, U.S.A.)	
The significance of the matrix microstructure on the solid lubrication characteristics of graphite in aluminium alloys.	229
B. K. Prasad and S. Das (Madhya Pradesh, India)	
A new method for bonding metal matrix composite inserts during casting.	237
S. A. Gedeon and I. Tangerini (Venice, Italy)	
High pressure infiltration casting: manufacturing net shape composites with a unique interface.	243
R. B. Bhagat (University Park, PA, U.S.A.)	
Rheological behavior of SiC particulate-(Al-6.5wt.%Si) composite slurries at temperatures above the liquidus and within the liquid + solid region of the matrix	253
H.-K. Moon (Pohang, South Korea), J. A. Cornie and M. C. Flemings (Cambridge, MA, U.S.A.)	
INNOVATIVE COMPOSITES BY POWDER PROCESSING	
Processing of particulate reinforced metals and intermetallics for improved damage tolerance	267
V. C. Nardone, J. R. Strife and K. M. Prewo (East Hartford, CT, U.S.A.)	
Processing and mechanical properties of niobium-reinforced MoSi ₂ composites	277
L. Xiao, Y. S. Kim, R. Abbaschian (Gainesville, FL, U.S.A.) and R. J. Hecht (West Palm Beach, FL, U.S.A.)	
Intrinsic second-phase particles in powder-processed MoSi ₂	287
J. D. Cotton, Y. S. Kim and M. J. Kaufman (Gainesville, FL, U.S.A.)	
Fracture behavior of metal particulate-reinforced WC-Co composites	293
D. Han (Pohang, South Korea) and J. J. Mecholsky Jr. (Gainesville, FL, U.S.A.)	
The effect of quenching on the mechanical properties of powder metallurgically produced Al-SiC (particles) metal matrix composites	303
F. Bonollo, R. Guerriero, E. Sentimenti, I. Tangerini (Venice, Italy) and W. L. Yang (Kunming, China)	
Study by thermoelectric power measurements of the microstructural evolution of the matrix of SiC-particle-reinforced aluminium alloy 6061	311
D. Dafir, G. Guichon, R. Borrelly, S. Cardinal, P. F. Gobin and P. Merle (Villeurbanne, France)	
Elevated-temperature mechanical properties of silicon-carbide-whisker-reinforced aluminum matrix composites.	319
R. B. Bhagat and M. B. House (University Park, PA, U.S.A.)	
AUTHOR INDEX	327
SUBJECT INDEX	329

